VEHICLE TECHNOLOGIES PROGRAM

Clean Cities

Building Partnerships to Reduce Petroleum Use in Transportation

The U.S. Department of Energy's Clean Cities initiative advances the nation's economic, environmental, and energy security by supporting local actions to reduce petroleum consumption in transportation. Clean Cities accomplishes this work through the activities of nearly 100 local coalitions. These coalitions provide resources and technical assistance in the deployment of alternative and renewable fuels, idle-reduction measures, fuel economy improvements, and new transportation technologies, as they emerge.

Clean Cities was established in 1993 in response to the Energy Policy Act of 1992 and is housed within the U.S. Department of Energy's (DOE) Vehicle Technologies Program. Since its inception, Clean Cities has saved more than 3 billion gallons of petroleum. In doing so, the program has promoted U.S. energy independence, supported regional economic development, and reduced vehicle emissions.

Goal and Strategies

Clean Cities' overarching goal is to reduce U.S. petroleum use by 2.5 billion gallons per year by 2020. To achieve this goal, Clean Cities employs three strategies:

- Replace petroleum with alternative and renewable fuels, including natural gas, propane, electricity, ethanol, biodiesel, and hydrogen
- Reduce petroleum consumption through smarter driving practices and fuel economy improvements
- Eliminate petroleum use through idle reduction and other fuel-saving technologies and practices.



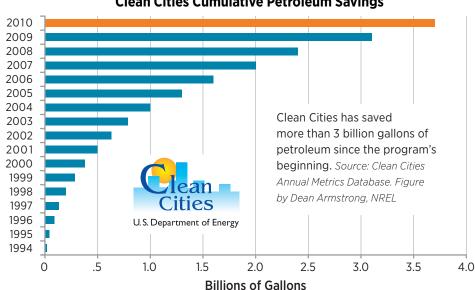
A hybrid electric bus powered by natural gas in downtown Denver. Clean Cities works to reduce petroleum use in the transportation sector by supporting the deployment of alternative fuels, advanced vehicles, and other strategies. *Photo by Pat Corkery, NREL/PIX 17976*

Clean Cities at Work

Clean Cities works to reduce U.S. dependence on petroleum in a variety of ways, at the local, state, and national levels. Clean Cities activities include:

- Establishing local coalitions of publicand private-sector stakeholders
- Providing technical assistance to fleets deploying alternative fuels, advanced vehicles, and idle-reduction measures
- Identifying funding and financial opportunities to support Clean Cities projects
- Documenting, analyzing, and publishing data from industry partners and fleets
- Developing information resources about alternative fuels, advanced vehicles, and other measures to reduce petroleum use
- Working with industry partners and fleets to identify and address technology barriers to reducing petroleum use
- Developing online tools to help stakeholders reduce petroleum consumption.

Clean Cities Cumulative Petroleum Savings



Geographical Coverage of Clean Cities Coalitions



A National Network of Local Coalitions

Nearly 100 Clean Cities coalitions work to reduce petroleum use in communities across the country. Coalitions are comprised of businesses, fuel providers, vehicle fleets, state and local government agencies, and community organizations. These stakeholders come together to share information and resources, educate the public, help craft public policy, and collaborate on transportation projects that reduce petroleum use. Nationwide, more than 10,400 stakeholders participate in Clean Cities coalitions.

Each coalition is led by a Clean Cities coordinator who tailors projects and services to meet the unique needs of individual communities. Organizations that join Clean Cities coalitions gain access to a wide array of resources, including networking opportunities with fleets and industry partners, technical training and workshops, individualized technical assistance, information resources, funding opportunities, assistance with media outreach, and public recognition for efforts to reduce petroleum use.



Clean Cities coalitions provide a forum for stakeholders in the public and private sectors to share information and resources, educate the public, help craft public policy, and collaborate on projects that reduce petroleum use. Photos (left to right): from Propel Fuels, Inc., NREL/PIX 18220; by Trish Cozart, NREL; from Allied Waste, NREL/PIX 18287

Clean Cities Accomplishments

Clean Cities efforts have helped deploy thousands of alternative fuel vehicles and the fueling stations needed to serve them, aided in the elimination of millions of hours of vehicle idling, and helped accelerate the entry of electric-drive vehicles into the marketplace.

Creating Alternative Fuel Corridors

Clean Cities supports infrastructure projects that place alternative fueling stations along major interstate highways, enabling drivers to forego petroleum when traveling long distances. The longest corridor gives flex-fuel vehicle drivers continuous access to E85 stations along I-65 from northern Indiana to southern Alabama. Other E85 corridors include the I-5 corridor in Oregon; the New York State Thruway; the route between Penn State University and Philadelphia; and the I-95/I-64 Crescent Corridor in Maryland, Virginia, and Washington, D.C.

Clean Cities projects have helped establish corridors for other alternative fuels as well, including natural gas along heavily traveled routes in California, Utah, and New York.



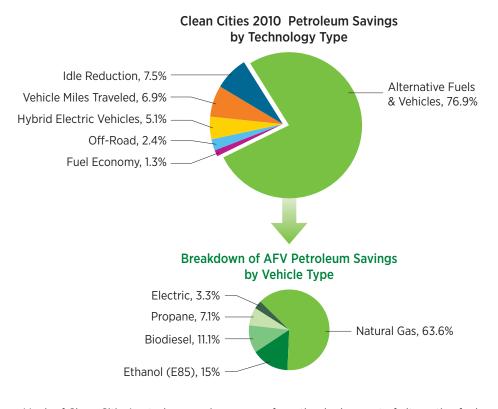
Clean Cities has helped to deploy thousands of alternative fuel vehicles and the fueling infrastructure required to support them. Photo by Pat Corkery, NREL/PIX 18133

Greening Our National Parks

Clean Cities is working with the National Park Service to accelerate the deployment of alternative fuels and advanced vehicles in national parks across the country. The partnership aims to reduce petroleum use, improve air quality, relieve traffic congestion, and educate visitors. With help from Clean Cities, Mammoth Cave National Park is deploying propane buses and electric vehicles, and rangers in Grand Teton National Park are cutting fuel use with hybrid electric vehicles. Yellowstone National Park is deploying a variety of electric-drive vehicles, including a hybrid bus that uses biodiesel.

Partnering With Private-Sector Leaders

President Obama launched the National Clean Fleets Partnership to help private-sector leaders reduce petroleum use. Through the partnership, Clean Cities provides specialized resources and technical assistance to companies with large fleets as they implement alternative fuels, advanced vehicles, and fuel economy improvements. More than a dozen partners have joined the initiative, and together, they operate more than 1 million vehicles across the nation.



Much of Clean Cities' petroleum savings comes from the deployment of alternative fuel vehicles (AFVs) that run on natural gas, E85, biodiesel, propane, or electricity. Source: Clean Cities Annual Metrics Database. Figure by Dean Armstrong, NREL





Staples and Coca-Cola joined the National Clean Fleets Partnership in 2011. Both companies are incorporating electric-drive technologies into their delivery truck fleets. Photos by Trish Cozart, NREL/PIX 19544 (top); NREL/PIX 19684 (bottom)

Accelerating Deployment of Plug-In Electric Vehicles

Clean Cities is playing a central role in the deployment of plug-in electric vehicles (PEVs) on U.S. roadways. In 2011, Clean Cities awarded \$8.5 million to help communities in 24 states and the District of Columbia prepare for the arrival of PEVs and plan for charging infrastructure. Clean Cities coalitions across the country are working with automakers, utilities, state and local governments, charging equipment manufacturers, and other stakeholders to accelerate the adoption of PEVs and maximize their potential to reduce emissions and petroleum use.

Photo from George Beard, Portland State University, NREL/PIX 18564



Information Resources

As the deployment arm of DOE's Vehicle Technologies Program, Clean Cities produces a comprehensive collection of information and publications for fleets, businesses, and the general public. Take advantage of the following print and online resources to learn more about Clean Cities and the fuels and technologies it supports.

Clean Cities: Visit the Clean Cities website at *www.cleancities.energy.gov* to find out more about the program, its accomplishments, and local coalitions.

Alternative Fuels and Advanced Vehicles Data Center (AFDC): The AFDC, online at *www.afdc.energy.gov*, provides a wealth of information and data about alternative fuels, advanced vehicles, and other petroleum-saving technologies. The site also features a number of interactive tools, calculators, and mapping applications, including the following:

- Alternative Fueling Station Locator: Find fueling sites and electric vehicle charging locations in your area (www. afdc.energy.gov/stations).
- Incentives and Laws: Search this database for federal and state incentives and laws related to alternative

fuels and vehicles, air quality, fuel efficiency, and other transportation-related topics (www.afdc.energy.gov/afdc/laws/).

 Vehicle Cost Calculator: Determine a vehicle's full cost of ownership, including fuel and maintenance costs. Compare vehicles and evaluate emissions benefits (www.afdc.energy. gov/calculator). **FuelEconomy.gov:** This site is the official U.S. government source for fuel economy information. Use it to find and compare vehicles, calculate your own fuel economy, and get tips to save fuel.

Clean Cities TV: Visit *www.cleancities.tv* to view scores of educational videos about alternative fuels, advanced vehicles, and transportation success stories from across the country.



U.S. DEPARTMENT OF ENERGY

Energy Efficiency & Renewable Energy

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VEHICLE TECHNOLOGIES PROGRAM

Clean Cities Program Contacts

Clean Cities is funded and managed by the U.S. Department of Energy. Regional project managers provide guidance and support to Clean Cities coalitions throughout the nation.

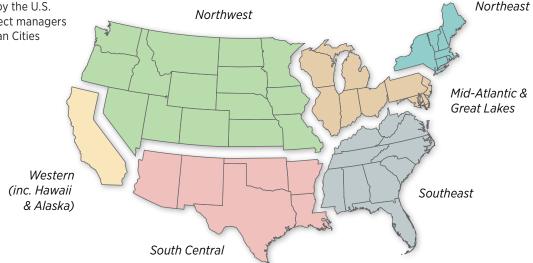
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